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A.D. 1861, 12th JUNE. N° 1512.

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**Posts or Supports for Telegraph Wires.**

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**LETTERS PATENT** to Robert Jobson, of Dudley, and Cromwell Fleetwood Varley, of 4, Fortress Terrace, Kentish Town, in the County of Middlesex, for the Invention of "**IMPROVEMENTS IN POSTS OR SUPPORTS FOR TELEGRAPH WIRES.**"

Sealed the 3rd December 1861, and dated the 12th June 1861.

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**PROVISIONAL SPECIFICATION** left by the said Robert Jobson and Cromwell Fleetwood Varley at the Office of the Commissioners of Patents, with their Petition, on the 12th June 1861.

We, ROBERT JOBSON, of Dudley, and CROMWELL FLEETWOOD VARLEY, of  
5 4, Fortress Terrace, Kentish Town, in the County of Middlesex, do hereby  
declare the nature of the Invention for "**IMPROVEMENTS IN POSTS OR SUPPORTS  
FOR TELEGRAPH WIRES,**" to be as follows:—

This Invention has for its object improvements in posts or supports for  
telegraph wires. For this purpose we employ tubes of cast iron made either  
10 conical or parallel, and in lengths or sections, which it is preferred should be  
capable of fitting one inside the other for facility of carriage. These lengths  
or sections fit together with suitable joints. A convenient construction is to  
make a socket at the end of each section, into which the end of the next  
section is made to fit, or the ends of the sections may be made with flanges to  
15 bolt together, and, if desired, elastic or soft material may be interposed between  
the surfaces of metal at the joints, or they may be turned and bored. The  
base or lowest section of the post or support, and which is imbedded in the

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earth, we also make conical, or of other convenient form ; and when conical, the smaller end is placed downwards when the parts are fitted together, and to prevent it sinking in soft land the base may be made to rest in or upon a disc or inverted dish. When posts or supports of wrought iron are employed, the base or lowest section of the post or support may be made of 5 cast iron, and formed as above described. Where the parts of a metal telegraph post or support are made to fit together with sockets, as already mentioned, in order to prevent the parts pulling apart when the post or support is in use, we pass a wire up the interior of the post or support, attaching it at one end to the base, and at the other end to the upper section of the post or 10 support.

In order as much as possible to reduce the weight of metal telegraph posts or supports made in sections as before explained, we stay them with stays of wire passing to the base of the post or support, or to parts projecting from the post or support. We employ usually two sets of stays, one set to steady 15 the post or support near its centre, and the other set to steady its upper end, or a greater number of sets of stays may be employed. Wooden posts fitted into metal sockets or bases may be similarly stayed to projections from the socket or base, or from the post.

In order to protect metal telegraph posts from oxidation, they are at present 20 commonly galvanized. In place of so treating them, we dip them into hot or boiling drying oil, which produces a varnish-like surface on the metal, over which paint may be applied if desired.

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**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said Robert Jobson and Cromwell Fleetwood Varley in the Great 25 Seal Patent Office on the 12th December 1861.

**TO ALL TO WHOM THESE PRESENTS SHALL COME**, we, ROBERT JOBSON, of Dudley, and CROMWELL FLEETWOOD VARLEY, of 4, Fortress Terrace, Kentish Town, in the County of Middlesex, send greeting.

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters 30 Patent, bearing date the Twelfth day of June, in the year of our Lord One thousand eight hundred and sixty-one, in the twenty-fourth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto us, the said Robert Jobson and Cromwell Fleetwood Varley Her special licence that we, the said Robert Jobson and Cromwell Fleetwood Varley, our executors, admi- 35 nistrators, and assigns, or such others as we, the said Robert Jobson and



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Cromwell Fleetwood Varley, our executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain  
5 and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN POSTS OR SUPPORTS FOR TELEGRAPH WIRES,**" upon the condition (amongst others) that we, the said Robert Jobson and Cromwell Fleetwood Varley, our executors or administrators, by an instrument in writing under our or their hands and seals, or under the hand and seal of one of us or them,  
10 should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

**NOW KNOW YE,** that I, the said Cromwell Fleetwood Varley, on  
15 behalf of myself and the said Robert Jobson, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say :—

This Invention has for its object improvements in posts or supports for  
20 telegraph wires. For this purpose we employ tubes of cast iron made either conical or parallel, and in lengths or sections, which it is preferred should be capable of fitting one inside the other for facility of carriage. These lengths or sections fit together with suitable joints. A convenient construction is to make a socket at the end of each section, into which the end of the next section  
25 is made to fit, or the ends of the sections may be made with flanges to bolt together, and, if desired, elastic or soft material may be interposed between the surfaces of metal at the joints, or they may be turned and bored. The base or lowest section of the post or support, and which is embedded in the earth, we also make conical, or of other convenient form, and when conical, the smaller  
30 end is placed downwards, when the parts are fitted together, and to prevent it sinking in soft land the base may be made to rest in or upon a disc or inverted dish. Where the parts of a metal telegraph post or support are made to fit together with sockets, as already mentioned, in order to prevent the parts pulling apart when the post or support is in use, we pass a wire up the interior of the  
35 post or support, attaching it at one end to the base, and at the other end to the upper section of the post or support.

In order as much as possible to reduce the weight of metal in telegraph posts or supports made in sections, as before explained, we stay them with stays of wire passing to the base of the post or support, or to parts projecting

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from the post or support. We employ usually two sets of stays, one set to steady the post or support near its centre, and the other set to steady its upper end, or a greater number of sets of stays may be employed. Wooden posts fitted into metal sockets or bases may be similarly stayed to projections from the socket or base, or from the post. 5

In order to protect metal telegraph posts from oxidation, they are at present commonly galvanized. In place of so treating them, we dip them into hot or boiling drying oil, which produces a varnish-like surface on the metal, over which paint may be applied if desired.

And in order that our said Invention may be most fully understood and 10 readily carried into effect, we will proceed to describe the Drawings hereunto annexed.

## DESCRIPTION OF THE DRAWINGS.

Figure 1 is a vertical section of a cast-iron telegraph post made tubular and in sections according to our Invention. It is made in four parts, A, B, C, 15 and D; the base or lowest section A of the post is when the post is erected imbedded in the earth as far up as the ground line marked in the Drawing. This portion it is preferred should be conical or taper, increasing in diameter as it approaches the ground line. At its upper end, for the reception of the next section B, the base A is made to taper in the contrary direction, and this 20 surface is turned smooth and true. The next section, B, is made to taper one way throughout, the larger diameter being at the lower end, and at this end raised rings are cast within the interior of the tubular section, and these are bored out to fit truly the turned end of the base A. The piece B at its upper end receives another similar piece C; this latter piece, however, is smaller in 25 diameter than the piece B, and it is fitted on to the upper end of this piece in the same manner as the latter is mounted on the base A. On the top of the piece C there is mounted in a similar manner the piece D, which at its upper end carries a socket, into which a piece for carrying the insulators is fitted; this piece is shewn separately at Figures 2; it is made hexagonal at the 30 lower end, and to fit the socket at the top of the piece D, which is similarly formed. The piece shewn at Figure 2 has holes through it to receive bolts, by which wooden or other cross pieces are attached, and to these insulators are directly attached as is usual. In order to prevent the portions A, B, C, and D from being separated after they have been set up for use, a metal disc *a* 35 is dropped into the base A, the disc being clipped on two sides to allow it to enter; it is of such a size, that it sets fast in the upper end of the base in the position shewn. There is a hole through the disc, and the wire is passed



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through it and knotted, or otherwise secured beyond; this wire is led up inside the post until it passes through another disc *b*, which lodges in the upper socket of the piece, and the wire is again secured beyond this disc either by again knotting it, or it may be (the wire being stout) by means of a nut  
5 screwed on to its end. Other means of preventing the separation of the parts when the post is set up for use may be employed. It will be seen that posts such as shewn in the Drawings will pack very conveniently for carriage, the parts fitting the one in the other. The dimensions of the several parts are marked in the Drawing, but these may be greatly varied. In place of  
10 making the parts B and C conical, they may be made parallel, but in this case also the section C would be smaller in diameter than the Section B, and would pack therein.

In place of making the joints in the manner shewn, they may be made in the same manner as the joints are commonly made in cast-iron gas and  
15 water pipes by running lead into the socket, and driving it in with caulking tools. Or the ends of the sections may be made with flanges, and these may be faced and held together by bolts; but the use of such flanges will interfere with the packing the parts one inside the other.

Figures 3 shew the disc or inverted dish which we employ to support the  
20 base A in very soft land; this, in setting up the post, is placed at the bottom of the hole dug to receive the base, and the lower end of this part is made to rest on the inverted dish within a raised ring formed thereon to keep it central.

Figures 4 and 4\* are perspective views of a telegraph post made in sections,  
25 and stayed, according to our Invention, with stays passing to arms or projections from the base of the post or support. The method in which it is preferred to form the arms or projections, and to attach them to the base of the post or support, is shewn at Figures 5. The base here shewn is such as is suitable for receiving a post or support of wrought iron; the post may be  
30 constructed as heretofore practised, or in other convenient manner. The application of stays, however, will allow of its being made much lighter than would be practicable without the use of stays. The base consists of a conical tube *a* of cast iron, into the upper end of which the socket *b* is fitted, and into this the post is stepped. At the top of the tube *a* a projecting ring *a*<sup>1</sup> is  
35 formed; it is inclined on its under side. The arms or projections *c*, *c*, are each connected with a segment piece *c*<sup>1</sup>, and these fit around the base. At the top they enter under the inclined edge of the ring *a*<sup>1</sup>, and at the bottom they are clipped against the base of the ring *d*, which is drawn tight by a bolt.

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Figure 6 is a section taken at the line 1, 1, Figure 5; this section shews eight arms or projections, but it is seldom so many will be required when a smaller number only is wanted; there will be spaces left between the segment pieces *c*<sup>1</sup>. The stays are attached to the outer ends of the arms or projections, which are suitably formed to receive them, and the upper ends of the stays 5 are connected with rings such as is shewn at Figure 6, which slip over the sections of the post or support, and are stopped by the points between the sections, and on these they rest, as the Drawings, Figures 4 and 4<sup>x</sup> shew.

Figure 7 shews a piece which fits on to the post or support in the same manner as the ring, Figure 6; it is made with sockets to receive staves, as is 10 also shewn at Figures 4 and 4<sup>x</sup>. There are notches at the ends of these staves in which the stays passing to the upper part of the post or support rest; the stays are thus rendered more efficient in supporting the upper part of the post or support than they would be if they passed to it direct from the 15 arms or projections *c*.

We would remark, that although the arms or projections are shewn connected with the base of the post or support, they may be similarly attached to the lower section of the post, or in other convenient position. The base or socket shewn at Figure 5 may most conveniently be employed to carry a light wooden post stayed in a similar manner. 20

To protect metal telegraph posts from oxidation, we dip them into hot drying oil. The oil we prefer to employ is that known as boiled oil; it is kept, by preference, heated so as to be just on the point of boiling, or as hot as it can be kept without causing it to waste rapidly. The articles are dipped without any previous preparation; care is however taken to protect them from 25 rust and moisture until this has been done. In this manner a varnish-like surface is produced on the articles, which becomes hard as soon as it is cold; the surface takes paint readily, but will itself be a sufficient protection for the article.

In witness whereof, I, the said Cromwell Fleetwood Varley, have here- 30 unto set my hand and seal, this Twelfth day of December, in the year of our Lord One thousand eight hundred and sixty-one.

C. F. VARLEY. (L.S.)

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(1 SHEET.)